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| APPLICATION NO. | FILING DATE | FIRST NAMED INVENTOR | ATTORNEY DOCKET NO. | CONFIRMATION NO. |
|--|-------------|----------------------|---------------------|------------------|
| 10/659,370 | 09/11/2003 | Toru Nishizawa | 023971-0309 | 3007 |
| 22428 | 7590 | 08/23/2004 | EXAMINER | |
| FOLEY AND LARDNER SUITE 500 3000 K STREET NW WASHINGTON, DC 20007 | | | TRAN, BINH Q | |
| | | | ART UNIT | PAPER NUMBER |
| | | | 3748 | |

DATE MAILED: 08/23/2004

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

10/659,370

Applicant(s)

NISHIZAWA ET AL.

Examiner

BINH Q. TRAN

Art Unit

3748

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☐ Responsive to communication(s) filed on ____.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-9 is/are pending in the application.
- 4a) Of the above claim(s) ____ is/are withdrawn from consideration.
- 5) ☒ Claim(s) 7 is/are allowed.
- 6) ☒ Claim(s) 1-6, 8 and 9 is/are rejected.
- 7) ☐ Claim(s) ____ is/are objected to.
- 8) ☐ Claim(s) ____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on ____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some * c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. ____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☒ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date 08/20/2004.
- 4) ☐ Interview Summary (PTO-413)
Paper No(s)/Mail Date. ____.
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: ____.

DETAILED ACTION

Claim Rejections - 35 USC § 102

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

(e) the invention was described in-

(1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effect under this subsection of a national application published under section 122(b) only if the international application designating the United States was published under Article 21(2)(a) of such treaty in the English language; or

(2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that a patent shall not be deemed filed in the United States for the purposes of this subsection based on the filing of an international application filed under the treaty defined in section 351(a).

Claims 1-6, and 8-9 are rejected under 35 U.S.C. 102 (b) as being anticipated by Ogawa et al. (Ogawa) (Patent Number 5,713,197).

Regarding claims 1, and 8-9, Ogawa discloses an exhaust gas purifying system for an internal combustion engine (1), comprising: an exhaust gas purifying catalyst (15) disposed in an exhaust gas passage of the engine to remove an exhaust gas component; a concentration sensor (17) disposed in the exhaust gas passage downstream of the exhaust gas purifying catalyst to detect a concentration of the exhaust gas component; and a control unit (5) programmed to carry out detecting an activity transition time at which the exhaust gas purifying catalyst changes from an inactive state to an active state, in accordance with the concentration of the exhaust gas component detected by the concentration sensor, and judging a deterioration of the exhaust gas purifying catalyst at

Art Unit: 3748

the activity transition time (e.g. See col. 11, lines 45-67; col. 12, lines 1-67; col. 13, lines 1-62).

Regarding claim 2, Ogawa further discloses that the control unit (5) is programmed to carry out the deterioration judging only immediately after a starting of the engine and during a warming-up transition time period in which the engine changes from a cold condition to a warmed-up condition (e.g. See col. 12, lines 5-67).

Regarding claim 3, Ogawa further discloses that the control unit is programmed to carry out the activity transition time detecting in response to a time at which the concentration of the exhaust gas component changes from a state higher than a judgment concentration to a state lower than the judgment concentration (e.g. See col. 11, lines 45-67; col. 12, lines 1-67; col. 13, lines 1-62).

Regarding claim 4, Ogawa further discloses that the control unit is programmed to carry out the deterioration judging in response to a condition in which a temperature of the exhaust gas purifying catalyst is higher than a judgment temperature at the activity transition time (e.g. See col. 11, lines 45-67; col. 12, lines 1-67; col. 13, lines 1-62).

Regarding claim 5, Ogawa further discloses that the control unit is programmed to carry out the deterioration judging in response to a condition in which a lapsed time of from a time of starting of the engine to the activity transition time is longer than a judgment time (e.g. See col. 11, lines 45-67; col. 12, lines 1-67; col. 13, lines 1-62).

Regarding claim 6, Ogawa further discloses that the exhaust gas purifying catalyst is a NO_x trap catalyst of a type wherein NO_x is adsorbed in an oxidation atmosphere and released in a reduction atmosphere, wherein the concentration sensor is a NO_x sensor for

Art Unit: 3748

detecting a concentration of NO_x (e.g. See col. 11, lines 45-67; col. 12, lines 1-67; col. 13, lines 1-62).

Allowable Subject Matter

Claim 7 is allowed.

The following is an examiner's statement of reasons for allowance: The prior art fails to disclose or render obvious the claimed combination including a NO_x sensor disposed in the exhaust gas passage downstream of the exhaust gas purifying catalyst to detect a concentration of the exhaust gas component; and a control unit programmed to carry out detecting an activity transition time at which the exhaust gas purifying catalyst changes from an inactive state to an active state, in accordance with the concentration of the exhaust gas component detected by the concentration sensor, and judging a deterioration of the exhaust gas purifying catalyst at the activity transition time, accomplishing a compulsory sulfur poisoning releasing processing for the NO_x trap catalyst after an initial judgment of the deterioration of the NO_x trap catalyst, judging as to whether the NO_x trap catalyst is subjected to a sulfur poisoning after a second judgment of the deterioration of the NO_x trap catalyst and after the sulfur poisoning releasing processing, and generating a warning when the NO_x trap catalyst is judged not to be subjected to the sulfur poisoning.

Any comments considered necessary by applicant must be submitted no later than the payment of the issue fee and, to avoid processing delays, should preferably accompany the issue fee. Such submissions should be clearly labeled "Comments on Statement of Reasons for Allowance."

Art Unit: 3748

Since allowable subject matter has been indicated, applicant is encouraged to submit formal drawings in response to this Office action. The early submission of formal drawings will permit the Office to review the drawings for acceptability and to resolve any informalities remaining therein before the application is passed to issue. This will avoid possible delays in the issue process.

Prior Art

The prior art made of record and not relied upon is considered pertinent to applicant's disclosure and consists of three patents:

Mitsutani (Patent Number 5737916), Ishii et. al. (Patent Number 6092368), and Ogawa et al. (Patent Number 5357754) all disclose an exhaust gas purification for use with an internal combustion engine.

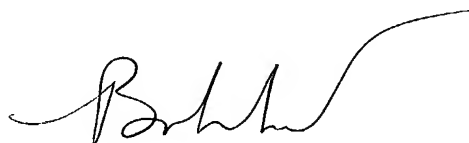
Art Unit: 3748

Conclusion

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Examiner Binh Tran whose telephone number is (703) 305-0245. The examiner can normally be reached on Monday-Friday from 8:30 a.m. to 5:00 p.m.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Thomas E. Denion, can be reach on (703) 308-2623. The fax phone numbers for the organization where this application or proceeding is assigned are (703) 872-9306 for regular communications and for After Final communications.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the Group receptionist whose telephone number is (703) 308-0861.

A handwritten signature in black ink, appearing to read 'Binh Tran', with a long, sweeping horizontal line extending to the right.

BT

Binh Tran

August 20, 2004

Patent Examiner

Art Unit 3748